

## 7. Evaluate.

a)  $\left(-\frac{2}{3}\right) \div \frac{1}{4} + \frac{1}{2} \times \frac{1}{2} \times \frac{1}{3}$

b)  $\left(-\frac{2}{3}\right) \div \left[\frac{1}{4} + \left(-\frac{1}{2}\right)\right] \times \frac{1}{3}$

c)  $\left(-\frac{2}{3}\right) \div \left[\frac{1}{4} - \left(-\frac{1}{2}\right)\right] \times \frac{1}{3}$

d)  $\left(-\frac{2}{3}\right) \div \left[\frac{1}{4} + \left(-\frac{1}{2}\right) \times \frac{1}{3}\right]$

## 8. Find the errors in each solution.

Write the correct solution.

$$\begin{aligned}
 \text{a) } & (-3.7) \times (-2.8 + 1.5) - 4.8 \div (-1.2) \\
 & = (-3.7) \times (1.3) - 4.8 \div (-1.2) \\
 & = -4.81 - 4.8 \div (-1.2) \\
 & = -9.61 \div (-1.2) \\
 & = 8.008\bar{3} \\
 \text{b) } & -\frac{3}{8} - \frac{4}{5} \times \frac{3}{10} \div \left(-\frac{4}{5}\right) \\
 & = -\frac{15}{40} - \frac{32}{40} \times \frac{3}{10} \div \left(-\frac{4}{5}\right) \\
 & = -\frac{47}{40} \times \frac{3}{10} \div \left(-\frac{4}{5}\right) \\
 & = -\frac{141}{400} \div \left(-\frac{4}{5}\right) \\
 & = -\frac{141}{400} \times \left(-\frac{5}{4}\right) \\
 & = \frac{(-141) \times (-5)}{400 \times 4} \\
 & = \frac{705}{1600}
 \end{aligned}$$

## 11. a) Use this formula to convert each

Fahrenheit temperature below to Celsius:

$$C = \frac{F - 32}{1.8}$$

i)  $0^\circ\text{F}$       ii)  $-40^\circ\text{F}$       iii)  $-53^\circ\text{F}$

## b) Here is another way to write the formula

in part a:  $C = \frac{5}{9}(F - 32)$

Use this formula to convert each

Fahrenheit temperature below to Celsius:

i)  $50^\circ\text{F}$       ii)  $-13^\circ\text{F}$       iii)  $32^\circ\text{F}$

## c) Which formula in parts a and b was easier to use? Explain your choice.

## 12. Evaluate. State the order in which you carried out the operations.

a)  $\left(-4\frac{1}{2}\right) + \left(-\frac{2}{3}\right) \times 2\frac{3}{4}$

b)  $\left(-3\frac{2}{5}\right) \times \left(-1\frac{5}{6}\right) + \frac{3}{10}$

c)  $(-3) \div \left(-\frac{4}{5}\right) + \left(-\frac{5}{12}\right) \times 1\frac{1}{2}$

d)  $\left(1\frac{5}{8}\right) - \left(-2\frac{3}{4} + 2\right)\left(-2\frac{3}{4} + 2\right)$

## 13. Use a calculator to evaluate.

Write the answers to the nearest hundredth where necessary.

a)  $2.3 + (-11.2) \div (-0.2) - 3.7$

b)  $(-3.4) \times 0.7 - (-1.8)(-1.8)$

c)  $\frac{0.67 - 4.2 \div (-0.2)}{(-7.3 + 8.6)^2}$

d)  $\frac{8.9 \times (-3.1 + 22.7)^2 + 4.7}{(-9.6) \div 0.04 - 0.4}$

## 17. A student's solution to a problem, to the nearest hundredth, is shown below. The solution is incorrect. Identify the errors. Provide a correct solution.

$$\begin{aligned}
 & (-8.2)^2 \div (-0.3) - 2.9 \times (-5.7) \\
 & = 67.24 \div (-0.3) - 2.9 \times (-5.7) \\
 & = 67.24 \div (-0.3) - 16.53 \\
 & = 67.24 \div (-16.83) \\
 & \div 4.00
 \end{aligned}$$

18. A student evaluated the following expression and the answer was 50.39 to the nearest hundredth. Another student evaluated the expression and the answer was 1.63 to the nearest hundredth.

$$\frac{23.7 - (-5.6) \div 0.7 + 6.8}{(-3) \times (-6.7) + 3.5}$$

a) Which answer is correct?

b) What mistake did one student likely make?

19. In question 11, you used these two versions of a formula to convert Fahrenheit temperatures to Celsius:

$$C = \frac{F - 32}{1.8} \quad \text{and} \quad C = \frac{5}{9}(F - 32)$$

Explain how to get one version of the formula from the other.

20. In Flin Flon, Manitoba, the mean of the maximum and minimum temperatures on one day was  $-12.8^{\circ}\text{C}$ . The maximum temperature was  $-11.5^{\circ}\text{C}$ .  
What was the minimum temperature?

21. Insert brackets in the expression below so the statement is correct.

Is it possible to insert brackets and get a positive answer?

Explain your thinking.

$$-3.8 + 9.1 \times -2.5 - 0.5 = -31.1$$